Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
The Development of Operational, Technical, and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010	)	WT Docket No. 96-86

To: The Commission

REPLY COMMENTS
OF THE
INDUSTRIAL TELECOMMUNICATIONS ASSOCIATION, INC.

Filed by:

INDUSTRIAL TELECOMMUNICATIONS ASSOCIATION, INC.

1110 N. Glebe Road, Suite 500
Arlington, VA 22201
(703) 528-5115

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S U M M A R Y

Chairman Reed Hundt has identified the communications needs of the public safety community as one of the Commission's top priorities for 1997. However, there is no easy fix for meeting the communications needs of the public safety community, especially with respect to providing funds for new communications systems.

Funding limitations remain a major obstacle in the adoption of needed improvements in Public Safety communications systems. Satisfying the communications needs of the public safety community will require a judicious mix of: (1) additional spectrum, (2) technological innovation, (3) users' purchasing power, and (4) manufacturer investment and commitment.

In these Reply Comments, the Industrial Telecommunications Association urges the Commission to make 95 megahertz of spectrum available for public safety in the top 20 metropolitan areas. In all other areas outside the top 20 urban areas, the Commission should allocate 45 megahertz for public safety services and the remaining 50 megahertz to accommodate the pressing needs of non-public safety private wireless services and federal government agencies.

ITA also provides a "blueprint" for helping to satisfy the funding requirements of public safety users and federal government agencies. The blueprint is premised on implementation of a system of spectrum lease fees for non-public safety private land mobile licensees.

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The Industrial Telecommunications Association, Inc. ("ITA"), pursuant to the Federal Communications Commission's Notice of Proposed Rule Making in the above-referenced matter, hereby respectfully submits these Reply Comments responsive to the comments filed in this proceeding.

I. INTRODUCTION

Within the past year, the needs of public safety have received considerable attention within Congress and the FCC. Indicative of public safety's recent prominence, Chairman Reed Hundt now lists "making sure the communications needs of the public safety community are met" as one of the Commission's top

objectives for 1997.[1]

As the PSWAC Final Report makes clear, there is no easy fix for making sure the communications needs of the public safety community are met. On this point, the Final Report concludes "[n]o single solution will solve the telecommunications problems confronting Public Safety."[2]

The inventory of telecommunications problems confronting Public Safety begins with inadequate spectrum resources. As the Association of Public-Safety Communications Officials-International, Inc. (APCO) stated in its comments, "[n]ew spectrum allocations are necessary . . . to provide critical interoperability between public safety agencies that must communicate on a daily basis to coordinate emergency response activities."[3]

Assuming that adequate spectrum can be made available, there remains the question of how best to use it. Technology plays a key role in providing the answer. As the FCC Chairman

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[1] December 12, 1996 FCC News Release, "FCC Chairman Hundt Outlines 1997 FCC Agenda; Procompetitive, Deregulatory Framework Is Goal; Lists Major Issues, FCC Streamlining Efforts." This News Release provides a summary of the Chairman's December 12th speech at the Institute on Telecommunications Policy.

[2] "Final Report of the Public Safety Wireless Advisory Committee," September 11, 1996, p. 4.

[3] APCO Comments, p. 2.

has recognized, innovation is a lot easier when there is adequate spectrum available.[4]

Obviously, however, additional spectrum and technological innovation remain only part of the solution:

> Funding limitations will remain a major obstacle in the adoption of needed improvements in Public Safety communications systems. At a time when government budgets are tight, alternative methods of funding future Public Safety communications systems must be identified. Otherwise, the substantial benefits afforded by technology will not be realized.[5]

On several different levels, funding is the glue that permits manufacturers and users to bond technological solutions with spectrum. Absent sufficient funds to implement new systems, public safety agencies will be deprived of the innovations made available by advances in technology. Equally important, however, unless equipment manufacturers perceive a viable market for new equipment, they will not risk the investment. From the manufacturers' perspective, "[t]he number of units each manufacturer will be able to sell is a major factor to be considered before making a large research-and-development

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[4] In Chairman Hundt's December 12, 1996 address at the Institute on Telecommunications Policy, he indicated that one of the Commission's major efforts during 1997 would be aimed at "[s]timulating innovation by encouraging increased access to more bandwidth."

[5] "Final Report of the Public Safety Wireless Advisory Committee," September 11, 1996, p. 4.

investment."[6] So, individual public safety agencies bent on introducing new technologies in telecommunications must have sufficient funds to purchase new systems and, from a macroeconomic perspective, the potential equipment market must be of sufficient size and depth to entice manufacturers to make the required investment.

When these rather imposing obstacles are viewed collectively, it becomes apparent that, despite the best intentions of the FCC, "making sure the communications needs of the public safety community are met" is a highly elusive goal. Further, without a judicious mix of: (1) additional spectrum, (2) technological innovation, (3) users' purchasing power, and (4) manufacturer investment and commitment, the goal will be unattainable.

II. BLUEPRINT FOR ACCOMMODATING THE FUTURE REQUIREMENTS OF PUBLIC SAFETY AND FEDERAL GOVERNMENT USERS

After careful consideration of the foregoing concerns and the comments filed in this proceeding, ITA offers the recommendations below as a blueprint for a responsible and effective regulatory program designed to meet the communications needs of the public safety community.

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[6] Comments filed by Alcatel Network Systems, Inc. in GN Docket No. 96-228, In the Matter of Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, December 4, 1996, p. 4.

A. *Spectrum Requirements*

The PSWAC Final Report identified a requirement for 95 megahertz of additional spectrum over the next 15 years to accommodate public safety requirements. The comments filed by APCO and other participating commenters endorse PSWAC's recommendation.[7] PSWAC derived its estimate of 95 megahertz of additional spectrum from the output of its spectrum demand model. The purpose of the spectrum demand model was to comprehensively estimate the needs of public safety in the year 2010.[8] In applying its spectrum demand model, PSWAC "utilized the Census Bureau's population growth figures for key metropolitan areas and historical trend data on the number of Public Safety officials, and other supporting personnel, required per capita."[9]

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[7] In a particularly ill-advised recommendation, the Final Report suggested that "[t]he FCC should consider the reallocation of channels which may become available from private radio services as a result of the refarming mandates." Final Report, p. 22. The American Petroleum Institute, Association of American Railroads, UTC, and other commenters oppose this suggestion. Even APCO, at page 19, footnote 9 of its comments, disassociates itself from this PSWAC recommendation. APCO concludes that the refarmed channels would be "of minimal use" to public safety licensees. For reasons related to technology, assignment policy, and long-established usage patterns, ITA strongly agrees with APCO's assessment.

[8] PSWAC Final Report, p. 56.

[9] Id.

The PSWAC Report confirms what common sense would suggest: the number of public safety officers in a given area, and hence the number of public safety mobile/portable units required in that area, varies with the overall population of the area. It stands to reason that there is a greater number of crimes and other threats to safety in a large urban area than in a small one. While the ratio of public safety officials to residents may be relatively constant from one area to another, larger areas require more police and fire officials, and more radio units, than smaller areas.

Due to the inherent limitations of its spectrum forecasting model, PSWAC had to focus its study on "key metropolitan areas." The necessary assumption was that if PSWAC's Final Report accurately identified the spectrum required by large urban areas, the spectrum requirements of smaller areas would necessarily be protected as well -- and to excess.

In fact, many demand studies comparable to the study conducted by PSWAC focus on the requirements of the three largest urban areas, New York, Los Angeles, and Chicago. At most, such demand studies might consider the top ten urban areas. A reasonable assumption is that a city that is not ranked, in terms of population, within the top twenty urban areas would require less than half of the amount of public

safety spectrum required in Los Angeles, New York or Chicago.[10]

ITA believes this situation presents an ideal opportunity for the Commission. The FCC could, and should, make 95 megahertz of spectrum available for public safety in the key metropolitan areas. ITA would define a "key metropolitan area" as the top 20 urban areas in the country.[11] Outside of the top 20 urban areas, the Commission would have the opportunity to allocate 45 megahertz for public safety services and the remaining 50 megahertz to accommodate the pressing needs of non-public safety private wireless services and federal government agencies.

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[10] ITA bases this assumption on its experience and expertise in dealing with frequency utilization over the past 40 years. However, it should be relatively easy to project future public safety spectrum requirements for urban areas that are not within the top 20 simply by adapting PSWAC's spectrum demand model to the demographics of smaller areas.

[11] According to the 1993 Rand McNally *Commercial Atlas and Marketing Guide*, the twenty largest Basic Trading Areas, based on 12/31/91 population estimates, are: (1) New York, (2) Los Angeles, (3) Chicago, (4) San Francisco-Oakland-San Jose, (5) Philadelphia-Wilmington-Trenton, (6) Detroit, (7) Dallas-Fort Worth, (8) Washington, D.C., (9) Boston, (10) Houston, (11) Atlanta, (12) Miami-Ft. Lauderdale, (13) Minneapolis-St. Paul, (14) Cleveland-Akron, (15) Seattle-Tacoma, (16) St. Louis, (17) San Diego, (18) Phoenix, (19) Pittsburgh, and (20) Baltimore. The Commission could use a suitable radius, such as the 50-mile radius used with respect to the land mobile frequencies in the 470-512 MHz band (47 C.F.R. § 90.305), to define the boundaries of these top 20 markets.

B. Manufacturer Investment

As noted above, the mere allocation of additional spectrum for public safety services will not, by itself, ensure full development of the spectrum allocated. There must be a concomitant commitment by equipment manufacturers to design and manufacturer radios to operate in the spectrum allocated. The commitment will occur only if manufacturers are convinced that there is sufficient demand to warrant their attention and effort. The spectrum included in the anticipated allocation of 95 megahertz will generate far more interest among equipment manufacturers if they foresee the opportunity to sell their products to non-public safety and federal users as well as public safety users.

In a typical allocation proceeding for private radio services, the spectrum identified for public safety systems is either intermingled with the spectrum allocated for other private radio systems or, alternatively, the public safety bands are located adjacent to the bands designated for other private radio services. Such an allocation strategy maximizes the potential market for equipment and allows manufacturers to design similar lines of equipment for public safety and other private radio systems. There are two beneficial effects of this strategy: (1) manufacturers have greater incentive to produce equipment for a given band because the potential

customer base is greater; and (2) when designing and producing equipment, manufacturers are able to maximize the economies of scale.

For these reasons, FCC action to allocate 50 megahertz of spectrum for non-public safety private and federal land mobile use outside of the top 20 markets would ensure a more stable and enduring commitment by manufacturers. And, given the large concentration of the population in the top 20 urban markets, the interests of public safety users in key metropolitan areas would be adequately protected.

C. Technological Innovation

A joint allocation of half of the spectrum for public safety and half for non-public safety, outside of the top 20 markets, would help to stimulate technological innovation. The features demanded by public safety users would expand the range of options available to non-public safety licensees. Conversely, the specialized requirements of non-public safety licensees would stimulate the design of unique service options that appeal to public safety users.

D. A Feasible Funding Mechanism

The joint public safety/non-public safety allocation concept presented above offers a unique opportunity to address

the one problem which neither the Commission nor public safety agencies are well-equipped to solve, i.e., funding of new equipment. The PSWAC Final Report makes it abundantly clear that lack of funds could negate the benefits of any new public safety allocation. According to PSWAC,

> alternative methods of funding future Public Safety communications systems must be identified. Otherwise, the substantial benefits afforded by technology will not be realized.[12]

With a carefully designed program for assessing spectrum lease fees on any non-public safety and non-federal systems operating within the anticipated 95 megahertz of new spectrum, there would be a ready mechanism for subsidizing part of the cost of the new radio systems to be implemented by public safety users and federal agencies on the 95 megahertz.[13]

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[12] "Final Report of the Public Safety Wireless Advisory Committee," September 11, 1996, p. 4.

[13] Aside from the obvious revenue-generating considerations, spectrum lease fees would also serve as a strong inducement for licensees to conserve spectrum. Under spectrum lease fees, a licensee operating over a large service area would realistically be expected to pay a higher fee than a similarly-situated licensee with a smaller service area. Similarly, a licensee employing a relatively large amount of bandwidth would likely pay more than a licensee using a smaller amount of bandwidth in the same market. From the standpoint of spectrum efficiency, therefore, there would be a benefit in applying spectrum lease fees to public safety licensees as well, even if those lease fees were significantly discounted. Clearly, the future will witness increasingly more intensive use of the public safety frequencies. In such an environment, it is quite possible that significantly discounted lease fees would provide a desirable incentive for more efficient use of the valuable public spectrum resources devoted to public safety use.

Implementation of efficiency-based spectrum lease fees would require permissive legislative authority from Congress and FCC implementation of a lease fee formula by means of a responsive rule making proceeding. Ideally, the legislative authority would provide the Commission with the latitude to develop a fee formula that takes into consideration key factors such as (1) the nature of the market, urban or rural, in which the lessee's system is located, (2) the amount of bandwidth being used, (3) the size of the lessee's service or coverage area, and (4) whether the lessee's system operates on shared or exclusive frequencies.

ITA believes that a properly designed system for assessing and collecting spectrum lease fees could be easily implemented. Moreover, unlike competitive bidding, spectrum lease fees are compatible with the private land mobile radio services. Additionally, spectrum lease fees provide an inherent incentive for licensees to limit their assigned spectrum to their actual requirements. Finally, of particular relevance to the instant proceeding, spectrum lease fees could provide funds to help subsidize the cost of telecommunications systems that public safety and federal government users will require in the future.

III. CONCLUSION

As the FCC proceeds with the task of "making sure the communications needs of the public safety community are met,"

it should be mindful of various measures that will help to maximize the utility of future allocations. The Commission should also be sensitive to alternative funding sources for public safety and federal government systems.

ITA believes there is a bona fide need for a substantial new allocation of public safety spectrum in the key urban markets in the U.S. ITA therefore urges the Commission to make 95 megahertz of spectrum available for public safety in the top 20 metropolitan areas. In all other areas outside the top 20 urban areas, the Commission should allocate 45 megahertz for public safety services and the remaining 50 megahertz to accommodate the pressing needs of non-public safety private wireless services and federal government agencies.

Additionally, the Commission, working in concert with Congress, should undertake the steps necessary to implement efficiency-based spectrum lease fees for the private mobile radio systems that would be licensed on the 50 megahertz of spectrum that would be made available for non-public safety private wireless services and federal government agencies in areas outside the top 20 markets. The revenues collected from these lease fees could then be used to subsidize part of the cost of the new radio systems to be implemented by public safety users and federal agencies.

WHEREFORE, THE PREMISES CONSIDERED, the Industrial Telecommunications Association, Inc. respectfully submits these Reply Comments and urges the Federal Communications Commission to act in accordance with the views expressed herein.

INDUSTRIAL TELECOMMUNICATIONS ASSOCIATION, INC.

1110 N. Glebe Road, Suite 500
Arlington, VA 22201
(703) 528-5115

By: _____
Mark E. Crosby, President
and Chief Executive Officer

By: _____
Frederick J. Day, Esq.
Executive Director,
Government Relations

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